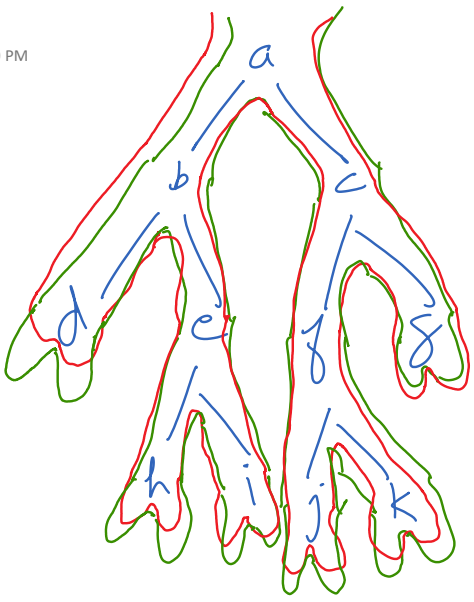
Thursday, May 19, 2022 9:00 PM

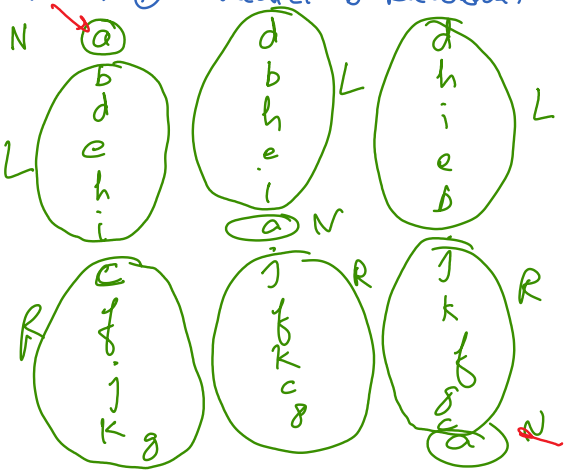


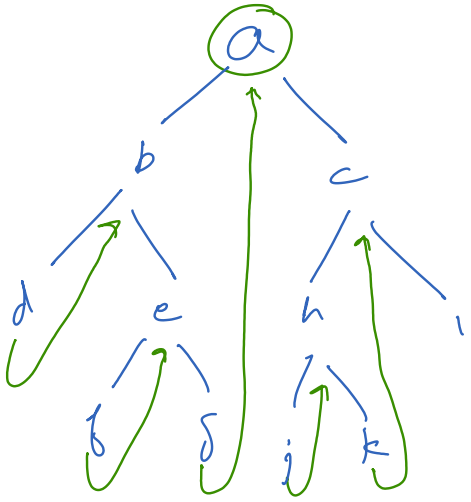
Pre — In — Post

NLR — LNR — LRN

Euler left — Euler Btw — Euler right

Recursion — Recursion — Recursion





d b f e g a j h k c i

Morris Traversal

↓

In order

1. Iterative
2. O(1) - S
3. O(n) - T

→ In order succ

→ Succ

above — down

Solve

a ka kam

a [i → a]

b [d → b]

d ①

b [d → b] ②

e [h → e]

d ↓

b ↓ node.l == null

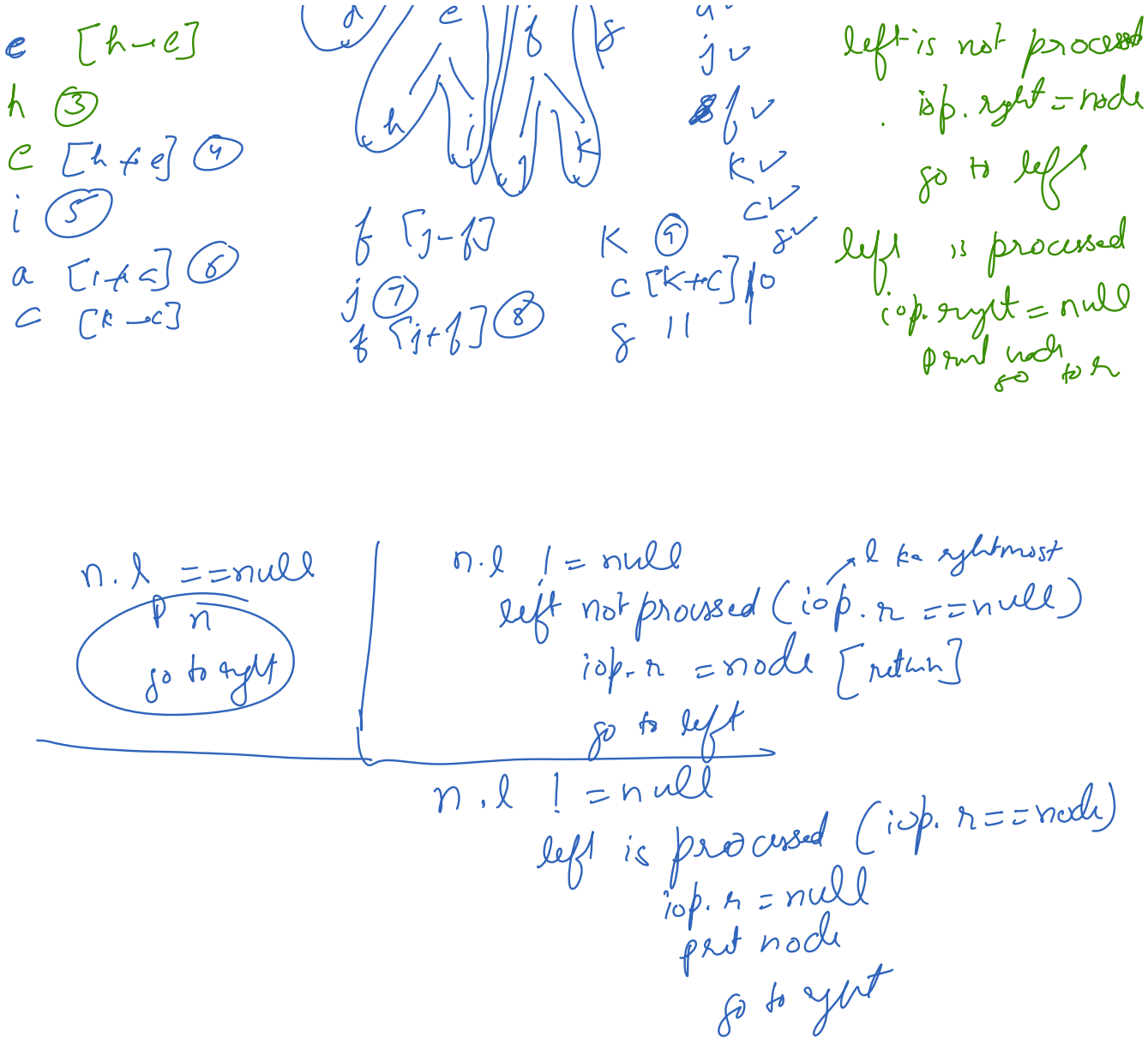
h ↓ Print node

e ↓ go to right

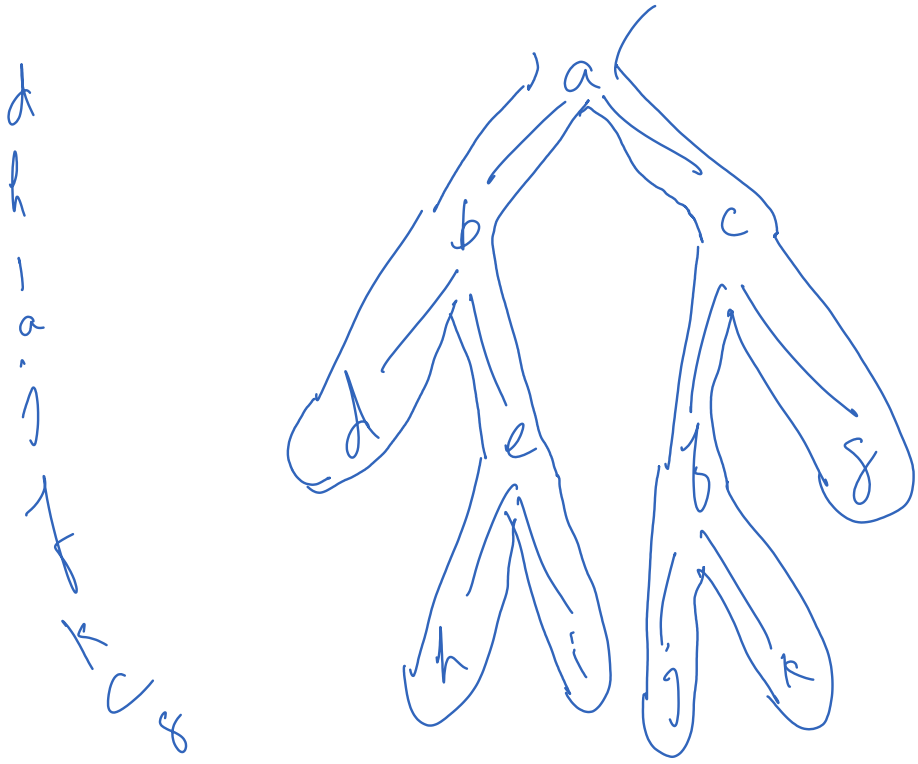
i ↓

a ↓ node.l != null

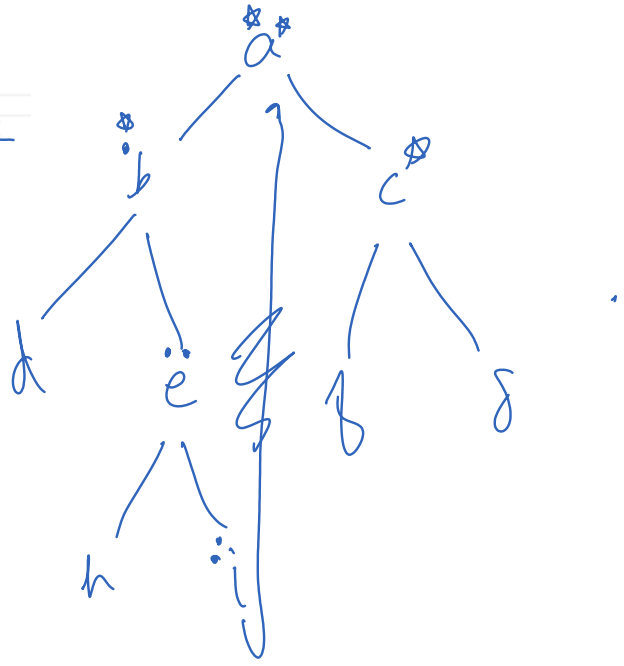
j ↓ left is not process

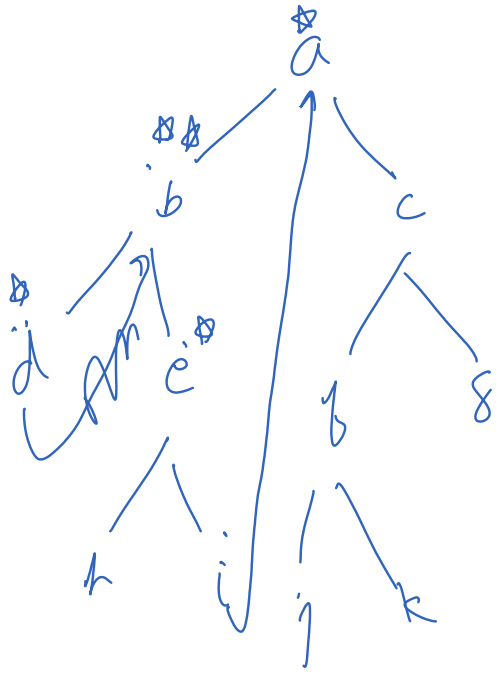


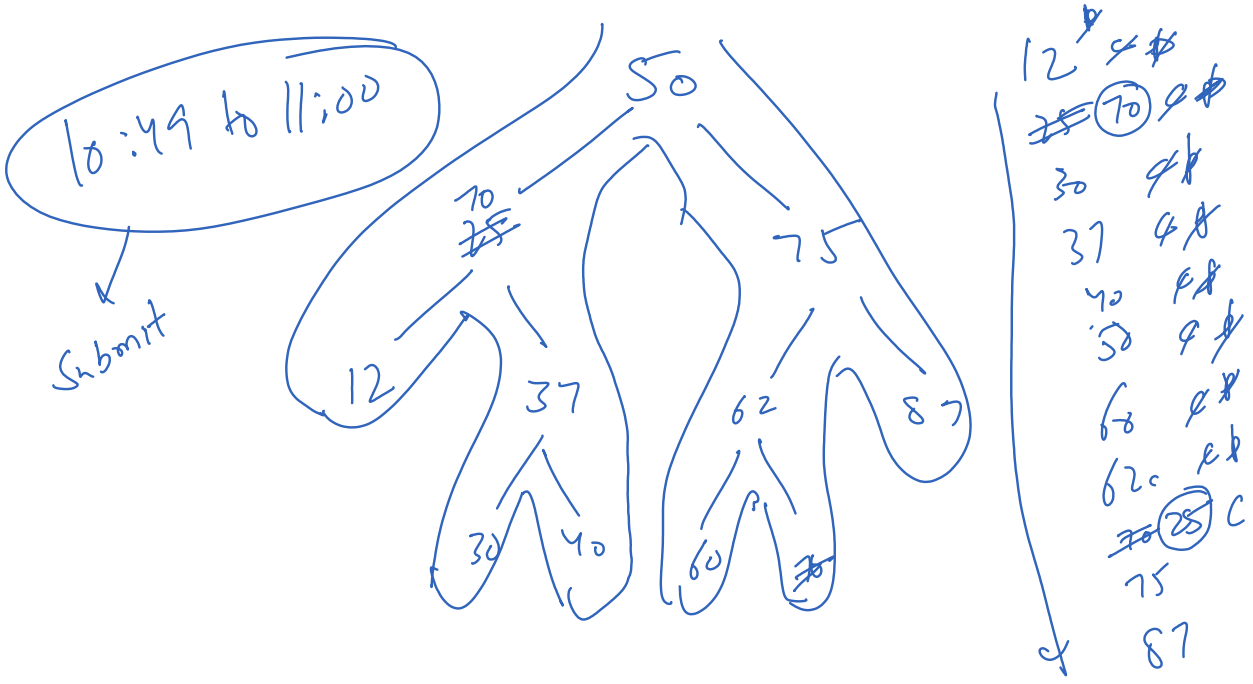

```
while(curr != null){
    if(curr.left == null){
        retVal.add(curr.val);
        curr = curr.right;
    } else {
        TreeNode iop = curr.left;
        while(iop.right != null && iop.right != curr){
            iop = iop.right;
        }

        if(iop.right == null){
            iop.right = curr; // making the thread
            curr = curr.left;
        } else {
            iop.right = null;
            retVal.add(curr.val);
            curr = curr.right;
        }
    }
}
```



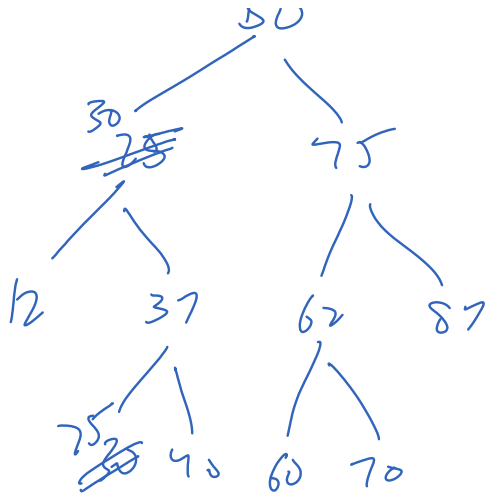
```
else {
TreeNode iop = curr.left;
while(iop.right != null && iop.right != curr){
    iop = iop.right;
}
```

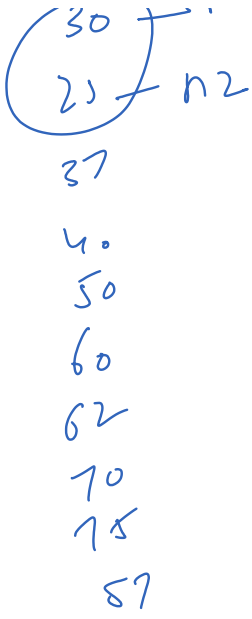


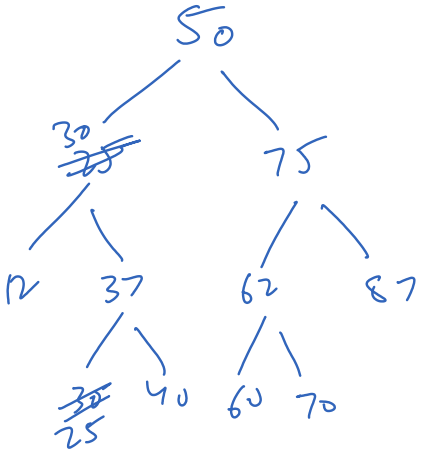


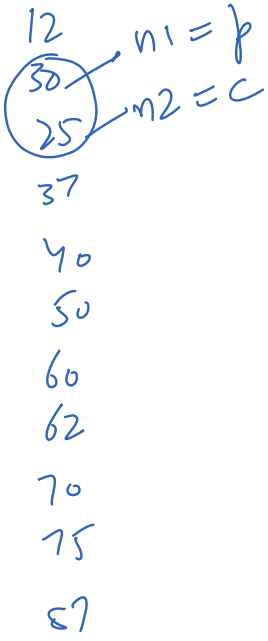

10:49 to 11:00
Submit
50
70
75
12
37
62
87
30
40
60
70

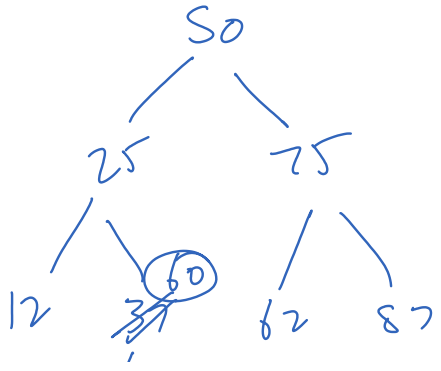

50
12
30
n1
n2

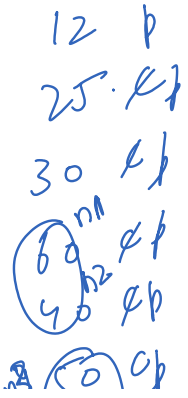


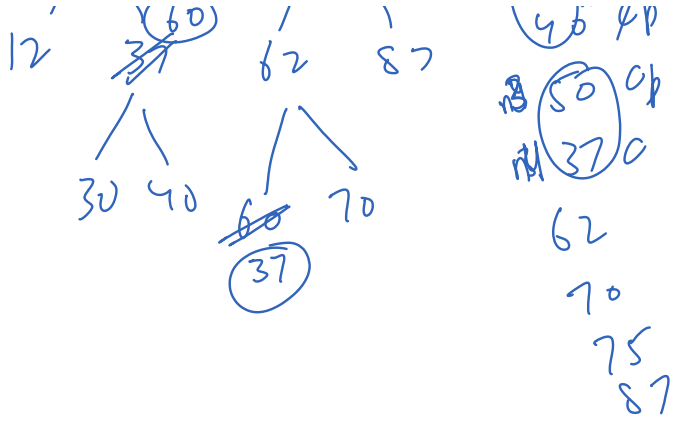




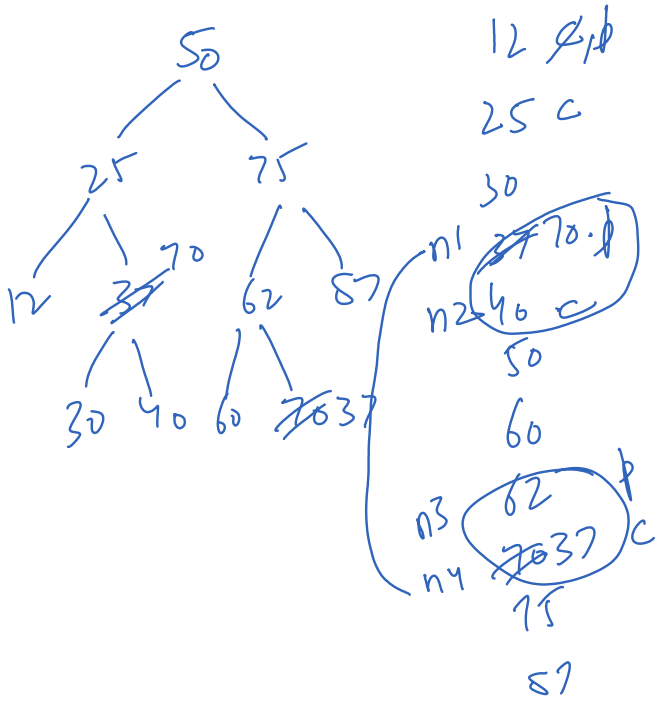









```
if(prev != null){
    if(curr.val < prev.val){
        count++;

        if(count == 1){
            n1 = prev;
            n2 = curr;
        } else if(count == 2){
            n3 = prev;
            n4 = curr;
        }
    }
}

prev = curr;
```



Inorder Successor